

EXHIBIT F

U.S. Patent No. 6,976,248 – Capital One Financial Corp., Capital One, National Association

Claim 1

Implicit, LLC (“Implicit”) provides evidence of infringement of claim 1 of U.S. Patent No. 6,976,248 (hereinafter “the ’248 patent”) by Capital One Financial Corp. and Capital One, National Association (collectively, “Capital One”). In support thereof, Implicit provides the following claim charts.

“Accused Instrumentalities” as used herein refers to at least the components involved in the dynamic generation of applications/applets/apps, including but not limited to webpages and mobile apps (or components thereof), which are dynamically generated by one or more Capital One servers running Node.js and V8 software in response to a request from a client device (e.g., a browser or mobile device used by a Capital One customer/subscriber/user to access data/information stored by Capital One) to the one or more Capital One servers. An example of the Accused Instrumentalities are the one or more servers that generate a response to a web-browser request directed to a Capital One webpage (e.g., <https://www.capitalone.com/>). These claim charts demonstrate Capital One’s infringement by comparing each element of the asserted claims to corresponding components, aspects, and/or features of the Accused Instrumentalities. These claim charts are not intended to constitute an expert report on infringement. These claim charts include information provided by way of example, and not by way of limitation.

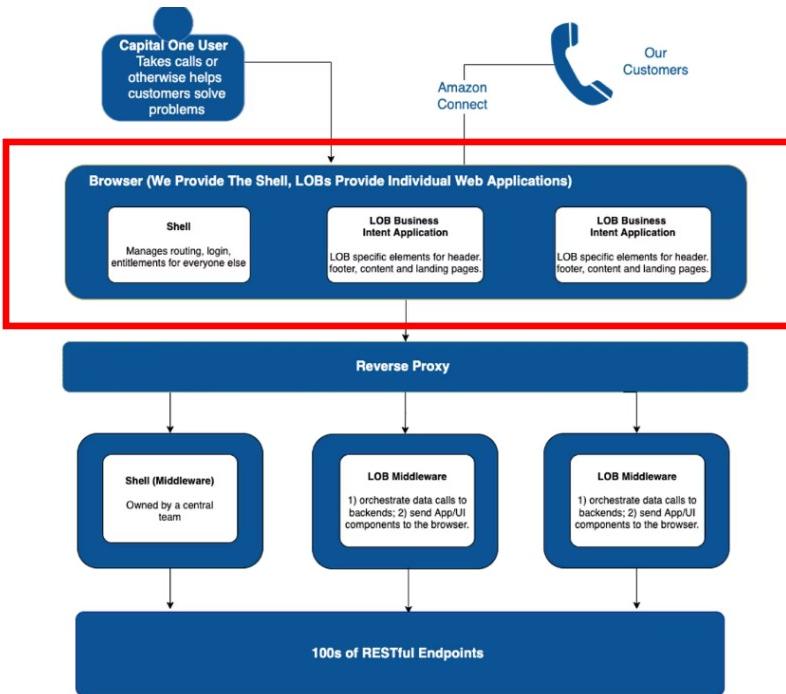
The analysis set forth below is based only upon information from publicly available resources regarding the Accused Instrumentalities, as Capital One has not yet provided any non-public information. An analysis of Capital One’s (or other third parties’) technical documentation and/or software source code may assist in fully identifying all infringing features and functionality. Accordingly, Implicit reserves the right to supplement this infringement analysis once such information is made available to Implicit. Furthermore, Implicit reserves the right to revise this infringement analysis, as appropriate, upon issuance of a court order construing any terms recited in the asserted claims.

Implicit provides this evidence of infringement and related analysis without the benefit of claim construction or expert reports or discovery. Implicit reserves the right to supplement, amend or otherwise modify this analysis and/or evidence based on any such claim construction or expert reports or discovery.

Unless otherwise noted, Implicit contends that Capital One directly infringes the ’248 patent in violation of 35 U.S.C. § 271(a) by selling, offering to sell, making, using, and/or importing the Accused Instrumentalities. The following exemplary analysis demonstrates that infringement.

Unless otherwise noted, Implicit believes and contends that each element of each claim asserted herein is literally met through Capital One’s provision of the Accused Instrumentalities. However, to the extent that Capital One attempts to allege that any asserted claim element is not literally met, Implicit believes and contends that such elements are met under the doctrine of equivalents. More specifically, in its investigation and analysis of the Accused Instrumentalities, Implicit did not identify any substantial differences between the elements of the patent claims and the corresponding features of the Accused Instrumentalities, as set forth herein. In each instance, the identified feature of the Accused Instrumentalities performs at least substantially the same function in substantially the same way to achieve substantially the same result as the corresponding claim element.

To the extent the chart of an asserted claim relies on evidence about certain specifically-identified Accused Instrumentalities, Implicit asserts that, on information and belief, any similarly-functioning instrumentalities also infringe the charted claim. Implicit reserves the right to amend this infringement analysis based on other products made, used, sold, imported, or offered for sale by Capital One. Implicit also reserves the right to amend this infringement analysis by citing other claims of the '248 patent, not listed in the claim chart, that are infringed by the Accused Instrumentalities. Implicit further reserves the right to amend this infringement analysis by adding, subtracting, or otherwise modifying content in the "Accused Instrumentalities" column of each chart.

Claim #	Accused Instrumentalities
<p>1. A method operating on a computer system for managing requests to a server computer for applets in a client server environment</p>	<p>The Accused Instrumentalities perform a method operating on a computer system for managing requests to a server computer for applets in a client server environment. This is illustrated, for example, as follows where the applet is https://www.capitalone.com/:</p>  <pre> graph TD User["Capital One User Takes calls or otherwise helps customers solve problems"] --> Browser subgraph Browser ["Browser (We Provide The Shell, LOBs Provide Individual Web Applications)"] direction LR Shell["Shell Manages routing, login, entitlements for everyone else"] LOB1["LOB Business Intent Application LOB specific elements for header, footer, content and landing pages"] LOB2["LOB Business Intent Application LOB specific elements for header, footer, content and landing pages"] end Browser --> ReverseProxy["Reverse Proxy"] ReverseProxy --> ShellMiddleware["Shell (Middleware) Owned by a central team"] ReverseProxy --> LOB1Middleware["LOB Middleware 1) orchestrate data calls to backends; 2) send AppUI components to the browser."] ReverseProxy --> LOB2Middleware["LOB Middleware 1) orchestrate data calls to backends; 2) send AppUI components to the browser."] ShellMiddleware --> RESTfulEndpoints["100s of RESTful Endpoints"] LOB1Middleware --> RESTfulEndpoints LOB2Middleware --> RESTfulEndpoints </pre> <p>Our front-end architecture matches pretty well to what Michael Geers might characterize as an "app shell" with multi-level routing. At the foundational level, we lean heavily on standard open source software libraries and practices. For backend libraries, we use (among others) Fastify, NestJS, Pino, Restify and Undici. On the front-end, we utilize Vue.js and React.js.</p> <p>All of our browser to backend connections go through Node microservices. These microservices are responsible for most of the middle-tier work you would expect in a distributed application. This includes data orchestration, business rule enforcement, and logical decisioning.</p> <p>client</p> <p>server (backend)</p> <p>Source: https://www.capitalone.com/tech/software-engineering/loosely-coupled-micro-frontends-with-nodejs/</p>

<p>wherein each request for an applet specifies one form of the applet out of a plurality forms of the applet, comprising:</p>	<p>The Accused Instrumentalities perform a method that includes each request for an applet specifies one form of the applet out of a plurality forms of the applet. This is illustrated, for example, as follows:</p> <div style="border: 1px solid #ccc; padding: 10px;"> <p>▼ Request Headers</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">:authority:</td><td style="width: 40%; border: 1px solid red; padding: 2px;">www.capitalone.com</td><td style="width: 30%; color: red;">application</td></tr> <tr> <td>:method:</td><td colspan="2">GET</td></tr> <tr> <td>:path:</td><td colspan="2">/credit-cards/fair-and-building/</td></tr> <tr> <td>:scheme:</td><td colspan="2">https</td></tr> <tr> <td>Accept:</td><td colspan="2">text/html,application/xhtml+xml,application/xml;q=0.9,application/javascript;q=0.8,application/x-javascript;q=0.8,application/javascript+json;q=0.8,application/json;q=0.8,application/javascript;q=0.7,application/x-exchange;q=0.7;q=0.7</td></tr> <tr> <td>Accept-Encoding:</td><td style="border: 1px solid red; padding: 2px;">gzip, deflate, br</td><td style="color: red;">form</td></tr> <tr> <td>Accept-Language:</td><td colspan="2">en-US,en;q=0.9</td></tr> </table> <p>Source: https://www.capitalone.com/credit-cards/fair-and-building/</p> </div>	:authority:	www.capitalone.com	application	:method:	GET		:path:	/credit-cards/fair-and-building/		:scheme:	https		Accept:	text/html,application/xhtml+xml,application/xml;q=0.9,application/javascript;q=0.8,application/x-javascript;q=0.8,application/javascript+json;q=0.8,application/json;q=0.8,application/javascript;q=0.7,application/x-exchange;q=0.7;q=0.7		Accept-Encoding:	gzip, deflate, br	form	Accept-Language:	en-US,en;q=0.9	
:authority:	www.capitalone.com	application																				
:method:	GET																					
:path:	/credit-cards/fair-and-building/																					
:scheme:	https																					
Accept:	text/html,application/xhtml+xml,application/xml;q=0.9,application/javascript;q=0.8,application/x-javascript;q=0.8,application/javascript+json;q=0.8,application/json;q=0.8,application/javascript;q=0.7,application/x-exchange;q=0.7;q=0.7																					
Accept-Encoding:	gzip, deflate, br	form																				
Accept-Language:	en-US,en;q=0.9																					
<p>a) receiving on said server computer a request from a client computer for an applet in a form selected from a plurality forms,</p>	<p>The Accused Instrumentalities perform the step of receiving on said server computer a request from a client computer for an applet in a form selected from a plurality forms. This is illustrated, for example, as follows:</p>																					

▼ Request Headers request		
:authority:	www.capitalone.com	application
:method:	GET	
:path:	/credit-cards/fair-and-building/	
:scheme:	https	
Accept:	text/html,application/xhtml+xml,application/xhtml+xml;q=0.9,application/xml;q=0.8,application/javascript;q=0.8,application/json;q=0.7	
Accept-Encoding:	gzip, deflate, br	form
Accept-Language:	en-US,en;q=0.9	
Source: https://www.capitalone.com/credit-cards/fair-and-building/		
b) compiling said applet into said selected form from a local resource comprising at least one source module and one compiler which acts on said source module to produce said selected form; and	The Accused Instrumentalities perform the step of compiling said applet into said selected form from a local resource comprising at least one source module and one compiler which acts on said source module to produce said selected form. This is illustrated, for example, as follows with implementation of the Node.js v8 module:	

	<p>Node.js v17.9.0 ► Table of contents ► Index ► Other versions ► Options</p> <p>Source Code: lib/v8.js</p> <p>The v8 module exposes APIs that are specific to the version of V8 built into the Node.js binary. It can be accessed using:</p> <pre>const v8 = require('v8');</pre>
	<p>Source: https://nodejs.org/api/v8.html#v8</p> <div style="border: 1px solid #ccc; padding: 10px; margin-top: 20px;"> <h3>Compilation</h3> <p>JavaScript is generally considered an interpreted language, but modern JavaScript engines no longer just interpret JavaScript, they compile it.</p> <p>This has been happening since 2009, when the SpiderMonkey JavaScript compiler was added to Firefox 3.5, and everyone followed this idea.</p> <p>JavaScript is internally compiled by V8 with just-in-time (JIT) compilation to speed up the execution.</p> </div> <p>Source: https://nodejs.dev/learn/the-v8-javascript-engine</p> <p>Upon information and belief, Node.js uses the V8 engine to compile and produce the selected form.</p>
c) transmitting said applet in said selected form to	The Accused Instrumentalities perform the step of transmitting said applet in said selected form to said client computer. This is illustrated, for example, as follows:

said client computer.	<p>▼ Response Headers</p> <table><tr><td>Cache-Control:</td><td>max-age=0, no-cache, no-store</td></tr><tr><td>Content-Encoding:</td><td>gzip transmitting</td></tr><tr><td>Content-Length:</td><td>120334</td></tr></table>	Cache-Control:	max-age=0, no-cache, no-store	Content-Encoding:	gzip transmitting	Content-Length:	120334
Cache-Control:	max-age=0, no-cache, no-store						
Content-Encoding:	gzip transmitting						
Content-Length:	120334						
<p>Source: https://www.capitalone.com/credit-cards/fair-and-building/</p> <p>Upon information and belief, the selected form 'gzip' is the selected form transmitting to the client computer.</p>							

Caveat: The notes and/or cited excerpts utilized herein are set forth for illustrative purposes only and are not meant to be limiting in any manner. For example, the notes and/or cited excerpts, may or may not be supplemented or substituted with different excerpt(s) of the relevant reference(s), as appropriate. Further, to the extent any error(s) and/or omission(s) exist herein, all rights are reserved to correct the same.